

Attorney Docket No. 21402-042

What is claimed is:

1. A method of diagnosing or determining the susceptibility to a tuberous sclerosis complex associated disorder in a subject, the method comprising:
 - (a) providing from the subject a test cell population comprising cells capable of expressing one or more nucleic acid sequences selected from the group consisting of TSC 1-8, 10-12, 15-141 and 142;
 - (b) measuring expression of one or more of the nucleic acid sequences in the test cell population; and
 - (c) comparing the expression of the nucleic acid sequences in the test cell population to the expression of the nucleic acid sequences in a reference profile comprising at least one cell from a subject not suffering from a tuberous sclerosis complex associated disorder; and
 - (d) identifying a difference in expression levels of the nucleic acid sequences, if present, in the test cell population and reference profile, thereby diagnosing or determining the susceptibility to a tuberous sclerosis complex associated disorder in the subject.
2. The method of claim 1, wherein the subject is a human.
3. The method of claim 1, wherein the tuberous sclerosis complex associated disorder is selected from the group consisting of hamartomas, hamartias, renal carcinoma, malignamnt angiomyolipoma, hypomelanotic macules, facila angiofibroma, shagreen patches and ungula fibromas.
4. The method of claim 1, wherein the method comprises comparing the expression of five or more of the nucleic acid sequences.

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5 The method of claim 1, wherein the method comprises comparing the expression of 20 or more of the nucleic acid sequences.

6. The method of claim 1, wherein the method comprises comparing the expression of 25 or more of the nucleic acid sequences.

7. A method of treating a tuberous sclerosis complex associated disorder in a subject, the method comprising administering to the subject an agent that modulates the expression or the activity of one or more nucleic acids selected from the group consisting of TSC 1-8, 10-12, 15-141 and 142.

8. A method of identifying a candidate therapeutic agent for a tuberous sclerosis complex associated disorder, the method comprising;

- (a) providing a test cell population comprising a cell capable of expressing one or more nucleic acid sequences selected from the group consisting of TSC 1-8, 10-12, 15-141 and 142;
- (b) contacting the test cell population with a test agent;
- (c) measuring expression of one or more of the nucleic acid sequences in the test cell population;
- (d) comparing the expression of the gene in the test cell population to the expression of the nucleic acid sequences in a reference cell population comprising at least one cell whose tuberous sclerosis status is known; and
- (e) identifying a difference in expression levels of the nucleic acid sequences, if present, in the test cell population and reference cell population, thereby identifying a therapeutic agent for a tuberous sclerosis complex associated disorder.

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9. A method of identifying an individualized therapeutic agent suitable for treating a tuberous sclerosis complex associated disorder appropriate in a selected subject, the method comprising:
 - (a) providing from the subject a test cell population comprising cells capable of expressing one or more nucleic acid sequences selected from the group consisting of TSC 1-8, 10-12, 15-141 and 142;
 - (b) contacting the test cell population with the therapeutic agent ;
 - (c) measuring expression of one or more of the nucleic acid sequences in the test cell population;
 - (d) comparing the expression of the nucleic acid sequences in the test cell population to the expression of the nucleic acid sequences in a reference cell population comprising at least one cell whose tuberous sclerosis complex associated disorder status is known; and
 - (e) identifying a difference in expression levels of the nucleic acid sequences, if present, in the test cell population and reference cell population, thereby identifying a therapeutic agent appropriate for the subject.
10. A method of assessing the efficacy of a treatment of tuberous sclerosis complex associated disorder in a subject, the method comprising:
 - (a) providing from the subject a test cell population comprising cells capable of expressing one or more nucleic acid sequences selected from the group consisting of TSC 1-8, 10-12, 15-141 and 142;
 - (b) detecting expression of one or more of the nucleic acid sequences in the test cell population;
 - (c) comparing the expression of the nucleic acid sequences in the test cell population to the expression of the nucleic acid sequences in a reference cell population comprising at least one cell from a subject not suffering from a tuberous sclerosis complex associated disorder; and

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(e) identifying a difference in expression levels of the nucleic acid sequences, if present, in the test cell population and reference cell population, thereby assessing the efficacy of treatment of the tuberous sclerosis complex associated disorder in the subject.

11. An isolated nucleic acid comprising a nucleic acid sequence selected from the group consisting of a TSC 1-8, 10-12, 15-25 gene, or its complement.
12. A vector comprising the nucleic acid of claim 11.
13. A cell comprising the vector of claim 12.
14. A pharmaceutical composition comprising the nucleic acid of claim 11.
15. A polypeptide encoded by the nucleic acid of claim 11.
16. An antibody which specifically binds to the polypeptide of claim 15
17. A kit which detects two or more of the nucleic acid sequences selected from the group consisting of TSC 1-8, 10-12, 15-141 and 142.
18. An array which detects one or more of the nucleic acid selected from the group consisting of TSC 1-8, 10-12, 15-141 and 142.

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19. A plurality of nucleic acid comprising one or more of the nucleic acid selected from the group consisting of TSC 1-8, 10-12, 15-141 and 142.